

We Claim:

1        1. A non-invasive measurement apparatus, comprising:

2              a wireless device having circuitry for performing a wireless function independent  
3 from sensing at least one prescribed characteristic of a subject and using at least a portion of  
4 said circuitry for performing said independent wireless function to also sense at least one  
5 prescribed characteristic of a subject.

1        2. The apparatus of claim 1, wherein the wireless device is one of a mobile phone, a  
2 wireless local area network, a cordless phone, and a motion sensor.

1        3. The apparatus of claim 1, wherein said portion of said circuitry for performing  
2 said independent wireless function used to sense said prescribed characteristics includes an  
3 antenna of said wireless device.

1        4. The apparatus of claim 1, wherein said portion of said circuitry for performing  
2 said independent wireless function used to sense said prescribed characteristics includes at  
3 least one of transmission and reception circuitry of said wireless communication device.

1        5. The apparatus of claim 1, wherein said wireless device senses said prescribed  
2 characteristics of said subject by transmitting signals and receiving said transmitted signals  
3 reflected from said subject.

1        6. The apparatus of claim 5, wherein said transmitted signals and said received  
2 signals are at substantially a same frequency.

1        7. The apparatus of claim 5, wherein said transmitted signals and said received  
2 signals are at different frequencies.

1           8. The apparatus of claim 5, wherein said wireless device sends said received signals  
2 to a destination analysis device over a communication network.

1           9. The apparatus of claim 8, wherein the communication network includes at least  
2 one of a wireless communication system, a public telephone switched network, Internet, and  
3 dedicated network.

1           10. The apparatus of claim 5, further comprising:  
2           a sensor disposed on said subject to enhance return of said reflected signals.

1           11. The apparatus of claim 10, wherein said sensor modulates data on at least one  
2 prescribed characteristic onto said reflected signals.

1           12. The apparatus of claim 10, wherein said sensor shifts a frequency of said  
2 reflected signals.

1           13. The apparatus of claim 12, wherein said sensor modulates data on at least one  
2 prescribed characteristic onto said reflected signals.

1           14. The apparatus of claim 10, wherein said sensor shifts a time of return of said  
2 reflected signals.

1           15. The apparatus of claim 14, wherein said sensor modulates data on at least one  
2 prescribed characteristic onto said reflected signals.

1           16. The apparatus of claim 1, wherein said prescribed characteristics include at least  
2 one of breathing activity, heart activity, and temperature.

1           17. The apparatus of claim 1, wherein said wireless device includes a module  
2 attached thereto and housing a portion of circuitry for sensing said prescribed characteristics  
3 of said subject.

1           18. A system for presenting measured prescribed characteristic data for a subject,  
2 comprising:  
3           a wireless device having circuitry for performing a wireless function independent  
4 from sensing at least one prescribed characteristic of a subject and using at least a portion of  
5 said circuitry for performing said independent wireless function to also sense at least one  
6 prescribed characteristic of a subject; and

7           a presentation device receiving said sensed prescribed characteristic data from said  
8 wireless device and displaying said sensed prescribed characteristic data.

1           19. The system of claim 18, wherein said presentation device filters said sensed  
2 prescribed characteristic data, and displays said filtered prescribed characteristic data.

1           20. A non-invasive measurement method, comprising:  
2           using a wireless device having an independent wireless communication function to  
3 sense at least one prescribed characteristic of a subject.

1           21. The method of claim 20, further comprising:  
2           presenting said sensed prescribed characteristic in a human readable form.

1           22. A non-invasive measuring apparatus, comprising:  
2           a transmitter transmitting transmit signals of a type for use in wireless  
3 communication; and  
4           a receiver receiving receive signals of a type for use in wireless communication;  
5 wherein  
6           in a first mode,

7           said transmitter transmits said transmit signals and said receiver receives said receive  
8       signals to perform wireless communication; and

9               in a second mode,

10          said transmitter transmits said transmit signals for use in measuring at least one  
11       prescribed characteristic of a subject; and

12          said receiver receives reflected signals, said reflected signal being said transmit  
13       signals reflecting off of said subject for use in measuring said at least one prescribed  
14       characteristic of said subject.

1           23. The apparatus of claim 22, further comprising:

2               a presentation device presenting data on said prescribed characteristic of said subject  
3       based on said received reflected signals.

1           24. The apparatus of claim 22, wherein said prescribed characteristic is one of  
2       temperature, heart activity and breathing activity.

1           25. The apparatus of claim 22, further comprising:

2               a wireless communication device housing at least one of said transmitter and said  
3       receiver.

1           26. A method of non-invasive measuring, comprising:

2               in a first mode,

3               transmitting transmit signals of a type for use in wireless communication to  
4       perform wireless communication, and

5               receiving receive signals of a type for use in wireless communication to  
6       perform wireless communication; and

7               in a second mode,

8               transmitting said transmit signals to measure at least one prescribed  
9       characteristic of a subject, and

10 receiving reflected signals, said reflected signal being said transmit signals  
11 reflecting off of said subject for use in measuring said at least one prescribed characteristic  
12 of said subject.

1 27. The method of claim 26, in said second mode, further comprising:  
2 presenting data on said prescribed characteristic of said subject based on said  
3 received reflected signals.

1 28. The apparatus of claim 26, wherein said prescribed characteristic is one of  
2 temperature, heart activity and breathing activity.

3 29. A non-invasive measurement apparatus, comprising:  
4 a device having a first function involving one of transmission and reception of  
5 signals, and sensing at least one prescribed characteristic of a subject using said one of said  
transmission and reception functionality, said first function being a function independent of  
said sensing.

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